Drinking Water Section Fact Sheet #3

Perchlorate (ClO_4^-)

Orginal in Color

Arizona Department of Environmental Quality
Drinking Water Section
3033 N. Central Avenue, Phoenix, Arizona 85012

Information about ADEQ and the Drinking Water Program can be obtained by calling the Drinking Water Section toll free at **1-800-234-5677 extension 4644**, or by the ADEQ web site which is located at: **www.adeq.state.az**

1. Perchlorate is a man-made inorganic salt that is a strong oxidizer which is used as a component of solid rocket fuel, munitions and in the pyrotechnics fireworks industry. Ammonium perchlorate in fireworks produces the blue colors. Perchlorate continues to be manufactured and used nationwide.

2. Perchlorate is very soluble and is mobile in groundwater and surface water. The chemical degrades very slowly in the environment.

3. Risk studies will determine whether or if there may be an impact to the environment or human health. Until the scientific studies are completed at the national level, we do not know the effects of perchlorate. Currently it is known that the Las Vegas Wash is transporting perchlorate contamination into Lake Mead which then feeds into the Colorado River.

4. A form of perchlorate is used in medication for hyperthyroidism (Graves Disease). Perchlorate disrupts the thyroids gland's ability to properly utilize iodine to produce thyroid hormones.

5. Current location information on perchlorate contamination of groundwater and surface water in Arizona is limited since the chemical is not a regulated drinking water contaminant. Testing has been conducted by EPA along the Colorado River with results ranging from "not-detected" to 9 parts per billion.. Other sampling conducted in Arizona along the CAP, in Municipalities, Lake Havasu, Jose De Sonita River, Salt River, Verde River, and near some industrial parks range from "not-detected" to 6 parts per billion.

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6. The Las Vegas area has groundwater contamination ranging from 630,000 parts per billion to 3,700,000 parts per billion. Utah has reported groundwater contamination ranging up to 200 parts per billion.

7. Laboratory methods to test for perchlorate could not get below 400 parts per billion detection level in the first part of 1997. Analysis of water samples conducted in August of 1998 used a modified laboratory method which is able to reach down to 1 part per billion using Ion Chromatography.

8. California currently has an interim health standard of 18 parts per billion. If results are above this level, water systems in California are required to remove that source from the drinking water system and to conduct public notification. California is able to do this since they have the legal authorities within their Department of Health.

9. There are currently no cost effective treatment technologies that can remove perchlorate from the drinking water, groundwater or surface water. Research is ongoing to find a cost effective treatment technology.

10. EPA risk studies on perchlorate and its effects on human health is underway and is anticipated to be completed by EPA sometime in December 1998 or January 1999. ADEQ is a member of the Interagency Perchlorate Steering Committee (IPSC) which is a national group headed by EPA. It is the goal of ADEQ to keep the communities in Arizona up to date on this emerging issue.

Additional Information and updates on the issues of perchlorate can be obtained from the National **EPA Safe Drinking Water Hotline** located in Washington, D.C. toll free at: **1-800-426-4791**. Updated information can also be obtained on the EPA Perchlorate website located at **www.epa.gov/ogwdw000/ccl/perchlor/indexkeep.html.**